

RING-BILLED GULLS OF THE ATLANTIC COAST

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THE principal breeding grounds of the Ring-billed Gull (*Larus delawarensis*) are on islands in lakes in the interior of North America, both in southern Canada and in the northern United States. The only nesting colonies of this gull now known to exist along the Atlantic coast of this continent are a half-dozen or so that are situated on the eastern part of the north shore of the Gulf of St. Lawrence, in Saguenay County, Province of Quebec.

The fact that the Ring-billed Gull nests in this region was first made known by John James Audubon, who investigated the bird life of this coast during his "Labrador trip" in the summer of 1833. On July 18 of that year, while Audubon's vessel, the "Ripley," was anchored in Hare Harbor, Little Mecatina Island, some of his party, headed by John Woodhouse Audubon, found a Ring-billed Gull colony containing some 200 nests on an island in a bay in the vicinity. This colony is reported and described by John James Audubon in his account of the Ring-billed Gull in "Birds of America,"¹ and also in his Labrador Journal,² published by Maria R. Audubon. The Ring-bills that now nest in Mecatina Bird Sanctuary are probably the present-day representatives of this group of birds.

Apparently the next ornithologist to report Ring-billed Gulls nesting on the north shore of the Gulf of St. Lawrence was M. Abbott Frazar, who, in 1884, fifty-one years after Audubon's trip to this region, found a few moderate-sized colonies of this species in the vicinity of Cape Whittle.³ He reported that, owing to their being frequently disturbed, they kept shifting about. These colonies are probably represented today by the Fog Island nesting group of Ring-billed Gulls.

Still a third nesting group of these gulls was reported from this coast by Charles W. Townsend,⁴ who, on July 16, 1915, visited the small island near Pointe au Maurier where a colony of this species is accustomed to nest. He found about 400 Ring-billed Gulls nesting there but did not come upon any other colonies of these birds during his trips along that coast.

The Ring-billed Gulls of the north shore of the Gulf of St. Lawrence show, as Frazar stated, a tendency to shift their nesting areas at times from island to island, in some instances over a distance of several miles. Examples of the scattering of a large colony into several smaller groups, nesting on as many different islands, have also been noted. Sometimes these changes are due to evident causes, such as human persecution, and sometimes the reasons for them are obscure. In spite of these shifts, however, the Ring-billed Gulls of this coast have in recent years bred in six distinguishable groups, each of which is restricted to a determinable archipelago and shows a strong tendency

to nest in most years on one or two preferred islands. These groups are as follows:

1. *Kegaska River Group*.—In years when they are not disturbed, the tendency is for all members of this group, the largest on the coast, to nest on the outer island in the small group of islands a short distance west of the mouth of the Kegaska River. I have never known this island to be completely abandoned by these birds, but in some years detached sections of this group nest on islands farther eastward, sometimes as much as 12 miles from the parent colony. On June 25, 1940, I counted in this colony 1028 nests with contents (eggs or newly-hatched young) representing an adult breeding population of at least 2056.



Figure 1. Ring-billed Gull at Kegaska River, Quebec. (National Parks of Canada photograph).

2. *Fog Island group*.—This group shows a strong tendency to shift about, to split up into sections, and to vary in total observable numbers. Fog Island may be considered its headquarters, but nesting birds believed to belong to it have been found as far away as Triple Island, 8 miles to the west, and Wolf Island, 10 miles to the east. In 1940 this entire group is believed to have nested on Fog Island, where, on June 29, I counted 135 occupied nests of this species, representing an adult breeding population of at least 270.

3. *Pointe au Maurier group*.—This group is usually restricted to the small island where Townsend found it. Two small temporary nesting groups that have been observed near Harrington Harbour, one in 1924 and another in 1925, probably came from the Pointe au Maurier colony, but possibly from that in Mecatina Bird Sanctuary. On July 4, 1940, I counted, on the small island near Pointe au Maurier, 542 occupied or recently-used nests of Ring-billed Gulls, representing an adult breeding population of at least 1084.

4. *Mecatina Bird Sanctuary group*.—This group is very unstable. Sometimes it nests on an island in the eastern part of the sanctuary, sometimes on an island in the western part, while in some years we have not succeeded in finding its location. In 1940 it nested on an island in the eastern part of the sanctuary, where, on July 13, I counted 35 occupied or recently-used nests belonging to it, representing an adult breeding population of at least 70.

5. *St. Augustin Bird Sanctuary group*.—This group, as far as is known, was newly established in St. Augustin Bird Sanctuary in 1930. It then contained about 300 breeding birds. It increased and in 1932 was estimated to contain about 500 breeding birds. Subsequently its numbers fluctuated, but in some years were probably even greater than in 1932. In 1939, as will be explained later in this paper, it failed to nest in the usual area. In 1940 a careful search on July 17 revealed only 29 nests, representing an adult breeding population of 58.

6. *Belles Amours group*.—None of this group has been observed nesting elsewhere than on one of the islands called Flat Rocks, a short distance east of the entrance to Belles Amours harbor. On July 2, 1936, when I first visited this colony, I estimated that 200 breeding birds were included in it. In 1939 it suffered eclipse, to be described later in this paper. On July 19, 1940, I visited Flat Rocks, but could find no indication of nesting of Ring-billed Gulls there in that year. Re-establishment of the colony may yet occur.

The total number of adult breeding Ring-billed Gulls in the five colonies on the north shore of the Gulf of St. Lawrence that I found active in 1940 is at least 3538.

The six nesting groups that have been described above were all situated on the eastern part of the north shore of the gulf, distributed from the Kegaska River group (Long. $61^{\circ} 20'W.$) to the Belles Amours group (Long. $57^{\circ} 21'W.$), a distance of about 200 miles.

The islands on which these Ring-billed Gulls nest are usually of small to moderate size and twenty to sixty feet high. Like most of the abundant islands along this coast, they are granitic and treeless, but have a sparse vegetative covering of mosses, lichens, herbaceous plants and prostrate or semi-prostrate shrubs. The gulls often nest on grassy areas, but it is uncertain whether this is because they prefer such areas or because abundant deposit of their excrement, year after year, favors the growth of grass. Nettles, asters, and such coarse umbelliferous

plants as angelica and cow parsnip are also characteristic of long-established colonies of these gulls. They suit the gulls' requirements very well, for, early in the season, when space is needed for courting and nesting, these plants are too small to be in the way, but after mid-summer, when young gulls are running around, they afford abundant dense cover, two or three feet high. On newly-occupied islands, Ring-billed Gulls often nest among prostrate or semi-prostrate shrubs that do not conceal nests or young.

Herring Gulls, Great-backed Gulls, and American Eider Ducks frequently nest on the same islands with the Ring-billed Gulls. The Ring-bills never scatter their nests over all the space available on an island, but crowd together in a compact group, leaving much of the island unoccupied by them. The larger gulls mentioned and the eiders tend to scatter their nests widely over an island with little or no regard to the situation of the Ring-bills, so that some of their nests are in the dense Ring-bill colony, but many are apart from them. The Fog Island group, in its shifting about, nests often, but not always, in company with a nesting group of twenty-five to fifty pairs of Caspian Terns. When they are together, the Caspian Terns occupy the summit and upper slopes of some smooth rocky knoll, partly covered with vegetation, while the Ring-billed Gulls nest close to the terns, but somewhat lower on the slopes. Both Arctic and Common Terns nest in the immediate vicinity of the nesting Ring-bills in the Kegaska River colony. Friction among these various species of gulls and terns, usually in the form of minor clashes about nesting territory, appears to be general, but seldom harmful.

Prior to the application of The Migratory Birds Convention Act to this region, the Ring-billed Gulls, in common with many other sea-birds nesting there, suffered much from human persecution, both their eggs and their young being used extensively for human food. The most favorably treated colonies were then those at Kegaska River and Pointe au Maurier, each of which nested near a single human family that took, it is true, a regular annual toll of the eggs, but that carefully left some eggs for the birds to hatch and that tried, with little or no support of law, to keep people from other places from interfering with them. For many years past, however, the Ring-bills of this coast, in common with most of the other birds nesting there, have benefited from active, organized governmental bird protection. Three of the nesting groups, those of Fog Island, Mecatina Bird Sanctuary, and St. Augustin Bird Sanctuary, commonly nest in official bird sanctuaries guarded by salaried resident caretakers, employed by the Canadian Department of Mines and Resources, although birds of the Fog Island group display an unfortunate tendency to nest fairly often on islands outside the sanctuary boundary. All of the Ring-bills along this coast receive protection during the nesting season from regular patrols made in motorboats by

government officers. Co-operation of conservation-minded private citizens resident in the region is also very helpful.

It may be remarked incidentally that, while Ring-billed Gulls and Herring Gulls, despite their difference in size, look so much alike at a little distance as to cause some difficulty in distinguishing them, they can, when they are vocal, be identified quite easily by their cries. It is true that, as might be expected in birds so nearly related, the various notes of the one species correspond quite closely to those of the other, but the cries of the Ring-billed Gull lack the volume and full-throated effect of those of the Herring Gull, so that in contrast they seem weak and hollow, while most of them are also much shriller. This difference has so impressed residents of the north shore of the Gulf of St. Lawrence that they always refer to Ring-billed Gulls by the local name, "Squeaky Gulls."

In general, the farther to the eastward a point on the north shore of the Gulf of St. Lawrence, the later the development of spring and the cooler the summer climate. Therefore the colony of Ring-billed Gulls at Kegaska River, being the westernmost colony of these gulls on that coast, experiences the earliest spring and usually the earliest laying of eggs. In favorable years, some eggs are laid in this colony in the last week in May, but most of the females begin to lay in the first week of June, while many do not begin until the second week of June. The Pointe au Maurier colony, some 75 miles northeast of Kegaska River, is usually slightly later in laying, and the St. Augustin colony, 85 miles farther northeast, is still later. Hatching in undisturbed nests takes place in late June or in the first half of July. Some young are able to fly before the end of July and very few Ring-bills remain at the nesting area after August 25.

The food of Ring-billed Gulls in this region in the nesting season consists largely of small fish, such as capelin and sand-lance. Wild berries, especially the fruit of the bog bilberry, are eaten in quantities after they ripen. Variations in the supply of small fish available in different years in the vicinity of the nesting colonies at the time when the young are dependent on their parents for food provide one of the principal factors restricting increase of these and other gulls in this region. When such small fish are lacking, the adult Ring-bills seem to be able to obtain enough clams, refuse from human fish-cleaning, and similar foods to provide for their own survival, but not enough to meet, in addition, the needs of their growing young. Faced with this situation, they increase the quantity of berries supplied to the young, but apparently the young cannot live long on such a diet, and a large proportion of them soon die. Some appear to die as a direct result of receiving insufficient nourishment, but a great many, after becoming weak from lack of nourishment, are killed by blows delivered by the adults. Human residents of the region often hold the view that the adult gulls thus intelligently meet a condition of food shortage by deliberately reducing

the number of young that they have to feed. It seems, however, more reasonable to suppose that scarcity of food tempts young gulls to trespass much more than usual on the territory of adults other than their parents and to try to compete actively for food that such adults bring to the colony for their own young. Adult Ring-bills, when irritated by such activities, commonly react by striking the offending young birds powerful blows with their beaks, with no attempt at moderation. Increase in trespassing and theft committed by the young, combined with weakness from insufficient food, which reduces their ability to escape, would thus naturally lead to an increase in the number of severe blows received by them from the adults, and thus to increased juvenile mortality. I have previously referred to this matter elsewhere^{5, 6} and have recorded that 1932 and 1934 were both years when in this region young gulls had a high mortality rate attributed to scarcity of small fish, but that conditions in this regard were much more severe in 1935, when less than 10 per cent of the young gulls of the region were believed to have survived until they attained ability to fly.

In 1939 an exceptionally late spring caused the Ring-billed Gulls of this region another difficulty. The records of the Canadian meteorological station at Harrington Harbour, near the middle of that part of the coast on which Ring-billed Gulls nest, show that the mean temperature for May, 1939, was 36°F., which is two degrees below normal, and that the mean temperature for June, 1939, was 45°F., which is nearly two degrees below normal. A heavy snowfall had been experienced during the latter part of the preceding winter and snow remained on the land much later than usual. From a point a few miles east of Harrington Harbour eastward to the Strait of Belle Isle the sea was covered with closely-packed floe ice until June 17. When the Ring-billed Gulls of the north shore arrived, near the end of May, on their six nesting areas, they found conditions unsuitable for nesting. The groups at Kegaska River, Fog Island, and Pointe au Maurier, which are all southwest of Harrington Harbour, were able to make sufficient adjustment to meet this situation by nesting and laying eggs a few days later than usual, but the groups at Mecatina Bird Sanctuary, St. Augustin Bird Sanctuary, and Belles Amours, which are northeast of Harrington Harbour and on the part of the coast where floe ice remained until after mid-June, failed to make such adjustment.

A description of what occurred in the case of the group of these birds in St. Augustin Bird Sanctuary has been furnished by the Sanctuary Caretaker, Mr. J. Thomas Kennedy. He says that in 1939 the Ring-billed Gulls arrived at their nesting-ground in that sanctuary about May 26. It seemed to him that their numbers were greater than ever before. There was still much snow and ice on their chosen island, but there were also limited areas of bare ground. There was no open water in the vicinity. The Ring-bills stood about on their island, with much shrill crying, for several days. They built a few nests and laid a

few eggs, but all the eggs were promptly eaten by something, very likely a Raven. Mr. Kennedy saw a few fresh egg-shells lying about the nesting area, but never actually saw an entire egg. About a week after their arrival, all the Ring-bills suddenly left the vicinity. They did not return at any time during the summer of that year, nor were they discovered nesting elsewhere.

Concerning the groups pertaining to Mecatina Bird Sanctuary and Belles Amours it is known only that they arrived at their nesting grounds in the last week of May and left a few days later for parts unknown and were not seen again during the summer.

Apparently the physiological condition of these birds required nesting within a limited time—a time that, in this unusual spring, expired before conditions in their accustomed nesting areas had become such as to make their nesting there possible. Whether the unsuitability of the nesting area at the usual time for nesting consisted in the unusually low temperature itself, or in snow-covered nesting sites, or in the ice-covered sea, or in delayed arrival of fish required for an adequate supply of food, or in some combination of these conditions is not known.

This occurrence may be taken to indicate that possibly Ring-billed Gulls do not nest along the coast east or north of Belles Amours because a spring season developing a little later than is normal at Belles Amours fails to provide suitable nesting conditions in time to correspond with the physiological rhythm of these birds. Gradual modification of that rhythm to meet the conditions offered by a later spring may be theoretically possible but does not appear to have been made.

Within the limits of our present certain knowledge of the nesting-places of Ring-billed Gulls, the division of this species that forms the groups nesting on the north shore of the Gulf of St. Lawrence appears to be very isolated. The next nearest nesting colony of Ring-bills that is known with certainty is the one at Black Ant Island, Ontario, in the upper St. Lawrence River, more than 800 miles distant. There is, however, some evidence that seems to me to indicate that the isolation of the Ring-billed Gulls of the north shore of the Gulf of St. Lawrence may not be so great as our incomplete knowledge causes it to appear. The great and sudden fluctuations in numbers of some of the known nesting groups along the coast and the complete disappearance of the three eastern groups in the first part of June, 1939, when conditions on the coastal islands where they usually nest were adverse, both make it seem likely that the Ring-bills have other nesting-places not far away, in lakes in the southern interior of the Labrador Peninsula. It may be that the six nesting groups found along the coast are but outlyers of a widely distributed breeding population using chiefly inland sites. In this connection it is to be kept in mind that the Ring-billed Gull nests, for the most part, at sites in inland lakes, that the interior of the Labrador Peninsula contains a great many island-studded lakes, and that the summer climate of the southern part of the interior of that

peninsula is warmer than that of the coastal region inhabited by these gulls, which is cooled by a branch of the Labrador current. We have also to consider that Ring-billed Gulls have been reported by A. P. Low⁷ and J. M. Macoun⁸ as breeding at Lake Mistassini, Quebec, and that John Macoun and James M. Macoun⁹ published a report, attributed to A. P. Low, that this species breeds in the vicinity of Hamilton Inlet, on the east coast of the Labrador Peninsula. According to the records of the National Museum of Canada, the latter report has reference to Northwest River, near the head of Lake Melville, Newfoundland Labrador, 110 miles inland, rather than to Hamilton Inlet. Both of these reports may be founded on fact, but Mr. P. A. Taverner, Ornithologist of the National Museum of Canada, informs me that he does not think the available evidence warrants their being accepted without reserve. Additional ornithological exploration is necessary before we can be sure we know in full the breeding range of the Ring-billed Gull in eastern Canada and in the mainland territory under the jurisdiction of Newfoundland.

From 1923 to 1939, inclusive, I have banded 2,122 young Ring-billed Gulls on the north shore of the Gulf of St. Lawrence. Forty-eight distant recoveries are now available in consequence of this work. They indicate that, after the young Ring-bills fly from the nesting colonies, they first scatter quite widely. In September some of them are to be found to the northeast, on the southern part of the Atlantic coast of Labrador, while others stray up the St. Lawrence River, sometimes nearly to Montreal. Apparently very few visit the Island of Newfoundland. In October there is a general movement southward, through New Brunswick, Prince Edward Island, Maine, Massachusetts, Connecticut, New York, and New Jersey. I have no reports from Nova Scotia. By November the foremost young Ring-bills have reached North Carolina and in December they are in Florida. Records indicating winter distribution of first-year birds are: one shot at Wyoming, Delaware, on January 18, 1930; one found dead at Mayport, Florida, on December 2, 1939; one killed at Jacksonville, Florida, December 24, 1925; one recovered at Pensacola, Florida, on January 16, 1934; one captured at Crystal River, Florida, on March 18, 1927; and one found dead at Columbia, Mississippi, on December 1, 1936. Only eight birds were reported when more than a year old. The oldest of these was a Ring-billed Gull banded in Fog Island Bird Sanctuary, Saguenay County, Quebec, on July 15, 1926, and captured at Seal Cove, White Bay, Newfoundland, on August 28, 1934, when a little more than eight years old.

SUMMARY

The known history of the nesting colonies of Ring-billed Gulls on islands bordering the north shore of the Gulf of St. Lawrence, which are the only recorded colonies of this species on the Atlantic Coast of

North America, is briefly outlined.

Six distinguishable nesting groups of Ring-billed Gulls occurring in that region are described.

The total number of breeding Ring-billed Gulls recorded in these groups in 1940, when one group was not to be found, was at least 3538.

The manner of the nesting of these Ring-billed Gulls, their conservation, and their voices are briefly described.

The effects of periods of food scarcity and of an abnormally cold, late spring in reducing the reproductive success of these gulls and a possible relation between climate and their limit of range in this region are considered.

Indications that the breeding range of the Ring-billed Gull possibly includes part of the southern interior of the Labrador Peninsula are discussed.

A brief account of information about the migration and range of the Ring-billed Gulls of the Gulf of St. Lawrence that has been obtained as a result of banding 2,122 young in the colonies under discussion is provided.

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